WORLD BAMBOO DAY 2018

Propagation, Commercial Plantation & Industrial Utilization of Bamboo

Dr. N. Barathi, Director Growmore Biotech Ltd. Hosur, TN,
Bamboo - The future crop of Agro - Industry

Breaking the Challenges of Bamboo for a better future
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0.5 Ton/acre

4-7 Ton/acre

40 Ton/acre
Biomass yield of 40 tons/Acre/Year

Best Bamboo sp.
Best Clone
Best Propagation – Tissue culture
Best Agronomy
High Density Plantation
Drip Irrigation & Fertigation

Precision farming
BEEMA BAMBOO
BEEMA BAMBOO  Wild BAMBOO
Biomass yield of 40 tons /Acre/Year

Best Bamboo sp.

Best Clone

Best Propagation – Tissue culture
QUALITY PLANTING MATERIAL
BAMBOO TISSUE CULTURE
ROOTING
Bamboo culture production line of 100,000 plants / day
Tissue Cultured Bamboo plants in the GROWTH ROOM
Tissue Cultured Bamboo plants
Tissue Cultured Bamboo plants in the GreenHouse
Tissue Cultured Bamboo clone ready for export
90 days old in polybag

Best Quality
Tissue Culture Bamboo
For Field Plantation
List of Bamboo Species produced by Tissue Culture

2. Bambusa Tulda
3. Bambusa Nutans
4. Dendrocalamus Stocksii
5. Dendrocalamus asper
6. Dendrocalamus Hamiltonii
7. Thyrsostachys oliveri
8. Dendrocalamus Brandsii
9. Dendrocalamus Latiflorus
Biomass yield of 40 tons /Acre/Year

Best Bamboo sp.

Best Clone

Best Propagation – Tissue culture

Best Agronomy

High Density Plantation
1000 plants / Ac
Harvest After 2.5 yrs
40 tons / yr / Ac
THE SALEM CO-OPERATIVE SUGAR MILLS LTD,
Mohanur · 637 015
Namakkal (Dist), Tamil Nadu

Beema Bamboo Energy Plantation

Planted by

Thiru. Vikram Kapur, IAS
Commissioner of Sugars

Venue: Distillery Unit
Area: 3 Acres
Date: 15-12-2010.
HIDENSITY ENERGY PLANTATION

12 months old Beema Bamboo
Biomass yield of 40 tons/Acre/Year

Best Bamboo sp.

Best Clone

Best Propagation – Tissue culture

Best Agronomy

High Density Plantation

Drip Irrigation & Fertigation

Precision farming
• Water usage /YEAR 2000 [mm water]
• Daily water requirement 5.5 mm
• Per plant water requirement 20lit/ plant/day
Fertigation tank
4 months old Beema Bamboo
4 months old Beema Bamboo

12 feet
12 months old Bamboo
12 months old Bamboo

8 feet

12 feet
12 months old Beema Bamboo
After two years
Bamboo Products

- Personal Care & Health
- Home Electronics Furnishings
- Electricity Incense Sticks
- Transportations
- Charcoal Filtration Yarn
- Bio mass Bio Fuels Coal

Ethanol

Bio-CNG
BAMBOO for SWITCHING OVER ENERGY from FOSSIL FUEL

ELECTRICITY COAL REPLACEMENT BIO-FUEL BIO-ETHANOL BIO-CNG

BEEMA BAMBOO ENERGY PLANTATION
Breaking the challenge of Bamboo for a better future through Energy
Calorific value of bamboo is 4000 kcal/kg
Ash 1 to 2%
Bamboo for Electricity

1 MW power plant needs 200 acres of Bamboo

Rs.2.50 = 1 KWh
Co-Generation

Current Status
20.4 Mil MW Hrs

Proposed Replacement by Bamboo
18 Mil Tons

Plantation required - land area
0.5 Mil Acre

Sugar mill  Sugar+ power

Courtesy of www.environment.gov.au/
4 kg of bamboo = 1.2 lit Ethanol

1 Acre = 10,000 lit ethanol /year
How Cellulosic Ethanol is Made

1. Biomass is harvested and delivered to the biorefinery.

2. Biomass is converted into sugars and lignin with physical and chemical processes.

3. Sugars are fermented into ethanol with added lipids.
BIO CNG Project in Pune by AGROGAS

4 kg of bamboo = 1 kg Bio Ethanol

1 Acre = 4,000 kgs ethanol/year
Thermo-chemical conversion of Beema Bamboo: Future of liquid bio-fuels and green Chemicals
Prof. Dharmendra Parekh

25% liquid bio-oil, 25% Bio Char and 20% Non-condensable gas 15% moisture

Scientist, Centre for Environmental Research, S.N. Patel Inst. Of Technology, Umarakh, Bardoli, Gujarat
Breaking the Challenges of Bamboo for a better future
Current Status: 820 Mil Tons/year
Imported coal: 200 Mil Tons/year
Proposed Replacement by Bamboo: 200 Mil Tons
Plantation required - land area: 5 Mil Acre
THANKING YOU

Breaking the Challenges of Bamboo for a better future

Barathi, N.
GROWMORE BIOTECH Ltd.
HOSUR (T.N.) INDIA.
+91 4344 260564 /65
www.growmorebiotech.com
e-mail - growmore@vsnl.com